

## REMARKS

### I. STATUS OF THE CLAIMS

Claims 1-5 and 7-24 are currently pending.

### II. UNACKNOWLEDGED IDS

It is respectfully requested that the Examiner acknowledge the IDS filed December 10, 2004.

In the remarks of the Response filed October 11, 2005, and also in the remarks of the Response filed July 11, 2007, it was requested that the Examiner acknowledge the IDS. However, it appears that the Examiner has still not yet acknowledged the IDS.

In view of the above, it is respectfully requested that the Examiner clearly acknowledge the IDS with the next action, and before appeal.

### III. NEW MATTER OBJECTION UNDER 35 U.S.C. 132(a)

The claims were previously amended to recite that "the fixing material does not block the light from entering the substrate through the light input portion". In the Office Action, the Examiner asserts that this recitation is new matter.

The applicants respectfully disagree.

More specifically, as would be understood from the application, light enters a VIPA through a light input portion. For example, in the example embodiment in FIG. 7B, a light input portion is a portion on which the anti-reflective film 12 is formed. See, for example, page 20, lines 14-17, of the specification. See also, for example, the light input portion where anti-reflective film 12 is formed in FIG. 4.

As would be well-understood by a person of ordinary skill in the art, light enters the VIPA through this light input portion. See also prior art FIGS. 1 and 2 which show input light entering the VIPA through a light input portion.

The embodiment in FIGS. 7A and 7B shows a fixing material 20. As can be seen from FIG 7B, the fixing material 20 does not block light from entering the substrate (for example, transparent plate 13 in the embodiment in FIG. 7B). See also the disclosure on page 20, lines 14-18, of the specification.

Accordingly, it is respectfully submitted that the claim recitation is fully supported by, for example, FIG. 7B.

The applicants concede that the specification does not include the specific wording that "the fixing material does not block the light from entering the substrate through the light input portion". However, it is respectfully submitted that it is not required for the specification to include such specific wording. Instead, it is respectfully submitted that the drawings are part of the application, and that it is a well-understood principle that the drawings can be used to provide support for claim recitations.

Moreover, MPEP2163.07(a) specifically states:

By disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, *even though it says nothing explicitly concerning it*. The application may later be amended to recite the function, theory or advantage without introducing prohibited new matter. (emphasis added.)

Based at least on the above described portion of the MPEP, and the above-described portions of the application providing support for the claim recitation, it is respectfully submitted that no new matter was added.

In the Office Action, the Examiner asserts "The applicant is respectfully reminded that the features recited in the claims *must be explicitly supported and stated in the specification*. Merely using the figures do not give positive written support for the features." (emphasis added.) Here, it appears that the Examiner is creating new law that directly conflicts with that set forth, for example, in the MPEP. More specifically, the Examiner requires "explicit support" and statements in the specification. However, the MPEP makes it clear that *explicit support* and statements in the specification are not required.

Moreover, MPEP 2163.06 specifically states that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter." Accordingly, it is well understood that the claims can be amended to include information contained in the drawings. It is respectfully submitted that the above-quoted assertion by the Examiner conflicts with MPEP 2163.06, disregards the fact that the drawings are part of the application, and generally disregards the well-understood principle that the drawings can be used to provide support for claim recitations.

In view of the above, it is respectfully requested that the Examiner reconsider and withdraw the objection.

**IV. CLAIMS 1 – 5 AND 7 – 24 ARE REJECTED UNDER 35 U.S.C. 112, FIRST PARAGRAPH AS FAILING TO COMPLY WITH THE WRITTEN DESCRIPTION REQUIREMENT**

The comments in Section III, above, also apply here.

In view of the above, it is respectfully requested that the Examiner reconsider and withdraw the rejection.

**V. CLAIMS 22-24 ARE REJECTED UNDER 35 U.S.C. 112, FIRST PARAGRAPH**

The Examiner appears to assert that all elements which are critical or essential to practice of the invention must be recited in the claims. The Examiner cites *In re Mayhew* as support for this assertion. The Examiner appears to assert that first and second reflective films formed on first and second sides of a substrate are critical or essential to practice of the invention, and must be included in the claims.

It is respectfully submitted that the Examiner is incorrect by asserting that all elements that are critical or essential to practice of the invention must be recited in the claims. For example, it is respectfully submitted that *In re Mayhew* simply stands for the principle that the claims must be supported by enabling disclosure. Therefore, it is respectfully submitted that the Examiner is misinterpreting *In re Mayhew*.

Instead, it is respectfully submitted that claims 22-24 are properly drafted to define over the prior art. These claims recite a VIPA. It is respectfully submitted that it is not necessary to recite every element which may be a part of a VIPA.

As an extreme example, a claim may recite a "computer". However, in such a claim, it is respectfully submitted that it is not necessary to recite every element which is a part of the computer and which is critical or essential for the computer to operate. For example, depending on the invention, it may not be necessary to recite a CPU or a bus, or a power source, although all computers would typically have such elements.

In the Office Action, the Examiner asserts that first and second reflective films formed on first and second sides of a substrate are critical or essential to practice of the invention. The applicants take no position here as to whether these features are critical or essential to practice

the invention, as it is respectfully submitted that such a discussion is not necessary here.

Moreover, in the Office Action, the Examiner asserts that "For claims 22 and 24 since the VIPA includes a substrate the claims therefore suggest that the fixing material is fixed to the substrate that is not supported by the specification." To address the Examiner's concerns, claims 22 and 24 are amended to recite that the VIPA has first and second sides, and that the fixing material is fixed to the first side of the VIPA. It is respectfully submitted that this is a minor amendment that addresses the Examiner's concerns and will thereby simplify matters for appeal. Therefore, although the Office Action was made Final, it is respectfully requested that these claim amendments be entered.

In view of the above, it is respectfully requested that the Examiner reconsider and withdraw the rejection.

**VI. CLAIMS 1-5, 7-13 AND 14-24 ARE REJECTED UNDER 35 USC 112, FIRST PARAGRAPH, AS FAILING TO COMPLY WITH THE ENABLEMENT REQUIREMENT**

Claim 1 was previously amended to recite that the fixing material prevents bending of the substrate due to temperature change. Similar amendments were previously made to other claims. The Examiner asserts that the specification does not provide enabling support for the amendments. More specifically, the Examiner asserts that the specification "fails to disclose how such is possible in particularly when the fixing material is fixed to the first multi-layer film and not directly to the substrate".

It is respectfully submitted that page 21, line 9, through page 22, line 2, of the specification, describe how it is possible that a fixing material prevents bending of the substrate due to temperature change.

In view of the above, it is respectfully submitted that the rejection is overcome.

**VII. CLAIMS 1 – 5 AND 7 – 24 ARE OBJECTED TO UNDER 35 USC 112, SECOND PARAGRAPH, AS BEING INDEFINITE**

The Examiner asserts that "it is not clear how does this fixing material logically relate to the substrate (with first reflective and second reflective films) and the fixing material as to definite defined the function of the 'optical device'".

It is respectfully submitted that the relationship of the fixing material to the substrate is

clearly recited, for example, in claim 1. Moreover, the fixing material would be clearly understood from, for example, FIGS. 7A and 7B.

In view of the above, it is respectfully submitted that the rejection is overcome.

VIII. REJECTION OF CLAIMS 22-24 UNDER 35 USC 102(B) AS BEING ANTICIPATED BY OKUMURA ET AL. (U.S. 5,969,902)

Claims 22 and 24 recite a VIPA, and that the fixing material prevents bending of the substrate of the VIPA due to temperature change. As indicated, for example, on page 10, lines 3-21, of the specification, bending of the substrate can degrade the profile irregularity, destroy the periodicity, increase insertion loss and decrease the transmission band of the VIPA. Moreover, as indicated in this portion of the specification, the substrate can bend due to unbalanced film stress.

Okumura does not disclose or suggest a VIPA. Instead, Okumura discloses a magnetic disk support member that supports a magnetic disk substrate. The magnetic disk support member and magnetic disk substrate do not experience the problems discussed above for a VIPA. Moreover, there is no portion of Okumura that discloses the above-described problems that affect a VIPA.

Okumura appears to disclose the use of different elements made of materials having the same thermal expansion coefficient. However, Okumura uses different elements made of materials having the same thermal expansion coefficient *to reduce strain of the magnetic disk substrate 12 and to minimize the levitation rate of the magnetic head 14*. See, for example, column 10, lines 29-38, of Okumura. These reasons for using materials having the same thermal expansion coefficient in Okumura are not related to the problems of a VIPA, and do not disclose or suggest any application to a VIPA to address the problems experienced by a VIPA.

Therefore, it is respectfully submitted that claims 22-24 would not be anticipated or obvious in view of Okumura.

Please note that the rejection is an anticipation rejection under 35 USC 102, which requires every element of the claim to be shown in the reference. However, Okumura does not anticipate claims 22-24 for at least the reason that Okumura does not disclose a VIPA.

Moreover, in the Office Action, the Examiner concedes that Okumura does not explicitly teach a VIPA. However, the Examiner asserts that "it has been held that a recitation with respect to the manner in which a claimed invention is intended to be employed does not

differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structure limitations." The Examiner's point here is not understood. The Examiner appears to indicate that the claims recite the "intended use" of a VIPA. As a result, the Examiner does not appear to give weight to the recitation of a VIPA. If so, it is respectfully submitted that the Examiner incorrectly asserts that the claims recite the "intended use" of a VIPA. Instead, it is respectfully submitted that the claims 22 and 24 specifically recite a VIPA. For example, each of claims 22 and 24 recite "a VIPA" in the body of the claim. This is not the intended use of a VIPA, but a VIPA itself.

For at least the reasons described above, it is respectfully submitted that claims 22-24 are not anticipated by, nor obvious, in view of Okumura.

In view of the above, it is respectfully submitted that the rejection is overcome.

IX. CLAIMS 1, 5, AND 7-17 ARE REJECTED UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER SHIRASAKI (U.S. 5,930,045) IN VIEW OF SPILLER ET AL. (U.S. 6,134,049) AND OKUMURA ET AL. (U.S. 5,969,902)

Claim 1 recites a stress correction film formed on the second multi-layer film, correcting distortion of the substrate due to a difference in stress between the first and second multi-layer films formed on the first and second surfaces, respectively.

Shirasaki discloses a VIPA. The VIPA of Shirasaki discloses a substrate having a first and a second surface, a light input portion on the first surface of the substrate, a first reflecting film formed on the first surface of the substrate, and a second reflecting film formed on the second surface of the substrate.

However, as recognized by the Examiner, Shirasaki does not disclose a stress correction film.

As indicated, for example, on page 18, lines 1-11, of the specification, a multi-layer film has compressive stress as a whole. As indicated in this portion of the specification, since the degrees of film stress is proportional to the number of layers, a multi-layer film with a larger number of layers will overpower the film stress of the other multi-layer film. As a result, as described in this portion of the specification, bending can occur. As indicated on page 18, lines 12-16, a stress correction film can cope with this bending problem.

The Examiner cites Spiller as disclosing or suggesting the use of a stress correction film. However, Spiller does not disclose or suggest the above-described bending problem relating to the film stress of one multi-layer film with respect to the film stress of another multi-layer film in a

structure such as that recited, for example, in claim 1. Moreover, none of the other cited references disclose or suggest these matters.

In view of the above, it is respectfully submitted that none of the references, taken individually or in combination, discloses or suggests a stress correction film as recited, for example, in claim 1.

Claim 1 also recites a fixing material that prevents bending of the substrate due to temperature change. See, for example, on page 21, lines 16-23; and page 28, lines 16-19, of the specification. Claim 1 also recites that the fixing material does not block the light from entering the substrate through the light input portion. The other independent claims include similar recitations.

See, for example, in FIGS. 7A and 7B, and the corresponding disclosure on page 20, lines 3-23, of the present application.

For example, as can be seen in FIGS. 7A and 7B, the fixing material 20 does not block the light from entering the substrate 13 through the light input portion 12. See also the disclosure on page 20, lines 3-23, which indicates that, even if the fixing material 20 was opaque, there would be no problems with the optical characteristic of the device.

As indicated, for example, on page 10, lines 3-21, of the specification, in an apparatus as recited, for example, in claim 1, bending of the substrate can degrade the profile irregularity, destroy the periodicity, increase insertion loss and decrease the transmission band. Moreover, as indicated in this portion of the specification, the substrate can bend due to unbalanced film stress.

A fixing material, such as that recited, for example, in claim 1, addresses these problems.

Okumura appears to disclose the use of different elements made of the materials having the same thermal expansion coefficient. However, Okumura uses different elements made of materials having the same thermal expansion coefficient *to reduce strain of the magnetic disk substrate 12 and to minimize the levitation rate of the magnetic head 14*. See, for example, column 10, lines 29-38, of Okumura. These reasons for using materials having the same thermal expansion coefficient in Okumura are not related to the same problems addressed by a fixing material as recited, for example, in claim 1. Moreover, Okumura does not disclose or suggest any application of a fixing material to address these problems.

In view of the above, it is respectfully submitted that none of the references, taken individually or in combination, discloses or suggests a fixing material as recited, for example, in claim 1.

The above comments are directed to claim 1. However, it is respectfully submitted that

the comments would be helpful in understanding various differences of various other claims over the cited references.

In view of the above, it is respectfully submitted that the rejection is overcome.

X. CLAIMS 1 – 4 ARE REJECTED UNDER 35 U.S.C. 103(a) AS BEING UNPATENTABLE OVER SHIRASAKI (U.S. 5,930,045) IN VIEW OF FUJII ET AL. (U.S. 5,424,876) AND OKUMURA ET AL. (U.S. 5,969,902)

The above comments for distinguishing over Shirasaki and Okumura also apply here, where appropriate.

In view of the above, it is respectfully submitted that the rejection is overcome.

XI. REJECTION OF CLAIMS 18 AND 20-21 UNDER 35 USC 103 AS BEING UNPATENTABLE OVER SHIRASAKI (U.S. 5,930,045) IN VIEW OF OKUMURA ET AL. (U.S. 5,969,902)

The above comments for distinguishing over Shirasaki and Okumura, also apply here, where appropriate.

In view of the above, it is respectfully submitted that the rejection is overcome.

XII. REJECTION OF CLAIM 19 UNDER 35 USC 103 AS BEING UNPATENTABLE OVER SHIRASAKI (U.S. 5,930,045) IN VIEW OF OKUMURA ET AL. (U.S. 5,969,902) AND FURTHER IN VIEW OF SPILLER ET AL. (U.S. 6,134,049)

The above comments for distinguishing over Shirasaki and Okumura, also apply here, where appropriate.

In view of the above, it is respectfully submitted that the rejection is overcome.

XIII. CONCLUSION

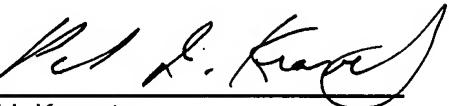
In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of allowance is earnestly solicited.

If any further fees are required in connection with the filing of this response, please charge such fees to our Deposit Account No. 19-3935.

Respectfully submitted,  
STAAS & HALSEY LLP

Date: October 25, 2007

By:

  
Paul I. Kravetz  
Registration No. 35,230

1201 New York Ave, N.W., Suite 700  
Washington, D.C. 20005  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501